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ANCIENT INDIAN SCIENTIFIC THOUGHTS FOR THIRD MILLENIA



Dr. N. Gopalakrishnan

Indian Institute of Scientific Heritage
Thiruvananthapuram - 695 018

Heritage Publication Series - 19

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Dhanyathman!

Bharath, that is India could survive on the globe earth for more than ten thousand years without losing her cultural and scientific tradition! This is one of the greatest wonders of the world! No other civilization has these many years of intellectual, social, cultural, spiritual, anthropological, scientific and technological heritage, as the Indians. The latest archeological evidences like metals and alloys obtained from Bhagavanpura, Kalibhangan, Mehargarh,.... of North Indian States have shown that they belong to a period of 8000 BC!

When the historians searched the 10552 verses of Rigveda the oldest book of mankind, they could see an important line in the last part of it, stating the planet Jupiter occulting the *thishya* star, which when calculated back, found occurred during 4275 +/-75 BC. That is last mandala (part) of the Rigveda might have written during this period. Again calculating back the period of writing the first chapters of the same Veda, the origin of Sanskrit language, then the origin of Sanskrit letters, etc... The period appears to reach the same as the archeologically arrived era of about 10,000 years ago! This research paper on the planetary observation given in Rigveda was presented in the international history congress, held in Scotland!

In front of us we have got a history of one hundred and fifty years of modern science period during when we started analysing everything through experiments using modern tools. In the back of us we have got a period of ancient Indian science during when everything was approved only through the experience of the mind and body. Now the facts in front of us are two. One, proved through experiments and the other proved through experiences! In the developed nation negative waves on the side effects of modern experimental sciences are blowing. Even the staunch proponents of the modern sciences started advocating, to look into the experience of ancient scientists. For them India is the treasury of ancient knowledge., both scientific and spiritual. They

are searching through every minute aspect of ancient Indian life style, knowledge, practice, tradition, custom, beliefs,..... They could classify many of them with the most sophisticated class of modern science. Now the term metaphysics is disappearing and in that place 'science' is used.

The human relation based organic progress, integrated physiological and psychological development, ecofriendly approach, sustainable development, sustainable consumption, environmental protection, ... are all based on the Indian concepts... knowingly or unknowingly world has selected the same slogans given in the Vedas, Upanishads, Puranas, Darsanas and so on for the survival of life in this planet. They have accepted the Vedic slogan *aano bhadraa krathavo yanthu visvatha*: let noble thoughts come to us from all sides! *Sahana vavathu sahanow bhunakthu sahaveeryam karavaavahai thejasvinaa vadheetha masthu maa vidvishavahai*. Let us live together, let us take the food together, let us work together and thus let us become wise. Let us not have enmity towards anybody.

We have to know where ancient Indian thoughts are positioned in the modern world scenario. In this book, a few bits are given, just us for quoting! More are to be added in the future.

We express our gratitude to the Department of Socialwork Cleveland University, particularly Dr. Murali D. Nair, Professor of the Department and Organiser of INDIA EXPERIENCE PROGRAMME of the University, for sponsoring this book.

Expecting your blessings, suggestions, guidance and cooperation, **Indian Institute of Scientific Heritage** is submitting it to you!

Dr. M. Sambasivan
Chairman

Dr. N. Gopalakrishnan
Hon. Director

10-8-2000

PHYSIOLOGICAL AND PSYCHOLOGICAL PARAMETERS IN YOGA PRACTICE

Every step in the practice of Yoga has been accepted by the modern science with experimental proof. There are eight steps for the yoga and hence the complete yoga sastra is known as the ashtanga yoga sastra, which means the eight step science of yoga. These steps are yama, niyama, aasana, praanaayaama, prathyahara, dhaarana, dhyaana and samaadhi. Analysing each step in the light of modern science, will give an inner sight of the science of yoga.

1. Yama : The yama step of the yoga has again five subdivisions.

1. Ahimsa : Absence of hostility and friendship towards every living and non living beings. This approach has been proved as an excellent psychological balancing method. The ahimsa in its real meaning is avoiding harming anything. This directly leads to the prevention of killing animals taking non vegetarian food and environmental protection.

2. Sathya : Getting the "sath" (essence and fact) of everything is sathya. Knowing the ultimate truth is the accepted pathway for any branch of science.

3. Astheya : Avoiding exploiting others for anything and everything. This has been explained as the best management approach in the modern world for maintaining human rights.

4. Brahmacharya : This really means the procedure adopted for acquiring the ultimate knowledge. It has been practiced in all universities world over and advised that one should focus on the ultimate supremacy in knowledge in endeavours.

5. Aparigraha : Avoiding over emphasising the material and physical comforts and understanding the aim of life. This has

been explained as the best approach in the counselling of individuals who are disturbed by the absence of contentment.

II. Niyama : It has five subdivisions of rules

6. Soucha: physical purity and hygiene. It goes without explaining that world over this concept of hygiene and cleanliness has been accepted.

7. Santhosha: Contentment in life. This is taken as the major issue in consoling individuals disturbed by psychological, social and economical problems in their day to day life. If one does not have contentment in their achievements and their possessions, it can lead to crucial psychological problems.

8. Thapas: This is the process of activating the body and sensory and functional organs. Parameters like controlling the mind, food, life style, etc are advocated in this step.

9. Swaadhyaya: Learning to acquire the ultimate knowledge. This has become the role of education in the modern days.

10. Eeswarapranidhaana: Submission to the ultimate power or god or the ishtadevatha whom one would like to worship directly. This submission under the faith has been proved, even by physiological analyses, that endomorphin production takes place in the brain which heals the pain. Hence in the life style, unless one has the trust and faith even physiological medication has lesser effect in the body.

When the above steps are analysed scientifically, one can see that these traits have powerful psychological and physiological relations and importance.

III. Aasanaa : Variety of physical postures for the muscular and skeleton systems are explained in this third step of the ashtaanga yoga.

11. These aasanas are the best remedies for many types of

body pains. It has also been explained that the muscular tensions get relieved. The smooth movements in the skeletal joints give the optimum level of physical exercises for the body. These exercises have direct bearing on the mental stability. Yogasanas have become the part of the school and college curriculum in universities world over.

12. Yogasanas have been advocated for many types of physical disorders.

13. Yogasana practising is becoming the rule of the day in many cities and in multinational companies, to reduce the stress in the life. Dozens of postures are taught depending upon the type of the physiological and psychological stress faced by the individuals, in the modern life style.

IV. Pranayama : The word, praanaayaama means controlling the prana, the life energy of body. This is attained in the yoga saastra through breath controlling.

14. By controlling the breathing rate, one can regulate the oxygen supply to our body. Complete or partial removal of the air from lungs is possible under this step. In modern science praanaayaama is explained as breathing exercise, which is ideal for maintaining physiological equilibrium.

15. Lactic acid accumulated in the muscles will get easily decomposed and oxidised and it can release the muscular fatigue. The weak cells, tissues, muscles can get activated by pranaayama.

16. Continuous functioning of brain can cause headache, migraine, and "brain blocking". A steady supply of oxygen through the blood under a calm smoothing position can easily activate the brain cells.

17. Breathing exercise has become one of the best technique to relieve the psychological and physiological stress in the personal and official life.

18. Direct evidences are available on the results of the pranaayama in normalising the blood pressure, heart beat, smoothening the blood flow, and improving the thought based process of learning and teaching.

V. Prathyahara : This is said to be the first step of meditation in which one has to withdraw the sensory organs (functioning) from the surroundings.

19. As the mind is connected with the surroundings through the sensory organs (eyes, ears, skin, tongue, nose) these should deliberately and by practice be withdrawn to get the concentration, in the meditation.

20. Withdrawing the senses from the surroundings is explained as the mentally and physiologically influenced process. It has the highest level of psychological effect too.

21. In the modern world, the prathyahara gives a great deal of contentment in the life style, so that many type of psychosomatic problems can be avoided.

VI. Dhaarana: This is the second step for prefect meditation

22. Giving a clear understanding to oneself through concentrating step on what one would like to achieve in the level of meditation. Controlling the mind is regulating the brain activity. The brain chemicals have direct bearing on the mind.

23. Even in the process of learning and teaching, the level of Dhaarana is excellent for understanding the subject, i.e getting a clear picture of the object and subject.

VII. Dhyaana : This is meditation which we all discuss. Concentrating the mind and reducing the formal activity of the brain but activating the brain cells, has been explained by Maharshi pathanjali as keeping the free flow of the connection of mind with the object (matter or God) without interruption.

24. Different stages of meditation have been perfectly analysed with modern scientific tools.

25. In the yoga, the different stages have been explained which are in full agreement with the scientific results. The common state under which the brain cells function is the beta stage, during when the brain produces electrical waves of frequency between 13 and 28 cycles per second (CPS). When the person moves to the first stage of meditation the wave number decreases to 8-13 CPS which is known as the alpha stage. Further going deep in the meditation, leads to the creation of the electrical waves of frequency between 3 and 8 which is the delta stage and the last stage is 0.5 to 3cps. This stage perhaps is explained as the samadhi stage of the yoga.

25. Systematic study results obtained as mentioned above using the Electroencephalogram (EEG) is in full agreement with the analytical results obtained by the neurologists on meditators.

26. The learning and practicing meditation are taken as part of the curriculum in many universities all over the world.

27. To reduce the mental stress, meditation has been advised for students, workers, bureaucrats and those who are working under stress. (more information follows)

VIII. Samadhi: This is the last stage of the ashtanga yoga

28. In this stage the body activities are minimised and brain is at high level of accumulation of energy and the senses are focussed at one object or thought. Perhaps this may be the theta stage obtained by the EEG analyses.

29. By inducing the alpha waves in the brain, through meditation, scientific studies have shown that epileptic brain waves get modified.

30. The music when used accompanied by other factors the biofeedback for setting of the alpha waves was easier and quicker. This can influence brain functioning directly.

31. The last three stages of the meditation. Dhyaana, Dhaarana and Samadhi are directly influencing the mind/brain and knowledge/ awareness/ consciousness, etc. These were labelled as the spiritual phenomena, a few decades back by modern scientists. But now the meditation and all the aspects connected with ashtanga yoga are pure science.

32. When the person under tension is in the receptive mood of submitting himself to 'god; or even to the doctor, the chemistry of the brain will change immediately. If the person is under rebellion mood these mantras/nor concentration of the mind will not work and the chemistry remains the same. Thus eeswara pranidhaana is scientific and chemically proved.

33. The mantras, prayers under the receptive mood, acts in such a way that the chemicals produced in the brain during the stress disappear and the smoothing chemicals such as endomorphins and serotonin are produced. This receptive mood is attained through Eeswarapranidhaanam of yoga.

34. The psychological effects of this submission resulting the production of endomorphin relieves the pain and hence these chemicals are known as the brain pain relievers. Unless the pain of stress is relieved, concentration to attain the meditation and production of alpha, delta and theta waves becomes impossible.

35. The yogic experiences have ample proof for the changes created in the brain. The best example sited is that the cancer tissue of Ramana Maharshi was removed without giving anaesthesia to him, because he could create enough endmorphins in the brain through yogic pathways to get relief from pain.

IX. Observations from the Neuro surgeon Dr. B.R. Ramamoorthy on brain and mind

36. Until a few years ago the vaasanas as mentioned in the Indian scriptures were poooh pooled by the western scientists... Today we can explain all this based on genetic conditioning... we know that genes not only determine shape, size, colour of the body but also the vasanaas as referred by Indians.

37. GENE of the modern science is nothing but the JNAANA of the ancient Indian sciences.

38. We in India say that the vasana of an individual is due to the poorvakarma (action of the past life). This is going to be proved by modern science within probably a hundred years.

39. Modern science has accepted the three states of the mind as the jagrath (waking), swapna (dream) and sushupti (deep sleep) as mentioned in the Indian scriptures.

40. The effect of Gayathri Japa and manthra japa by knowing the meaning and keeping the faith works better and produce chemical changes in the brain.

41. The meaning of the mind control in all the ancient rituals by saying that *manassamaadhiyathaam... samaahitha manasasma*: let our mind becomes calm and let it happen to all of us, has the real physiological meaning and message.

42. The fourth state of consciousness after jaagrath, swapna and sushupthi is now proved to be the **Turya** state as mentioned in Turgopanishad.

43. "The present day neurophysiology stops with attributing the thinking process as the highest level function of the brain. It has been common knowledge to oriental thinkers... particularly Indians. There are many further states of the human mind culminating in the state of thoughtless awareness" and Turya is that ultimate functional state of the brain.

44. In the Turya state the energy of billions of brain cells are conserved. Therefore it may be possible in that state to become extra ordinarily aware.... as we say *thrikaala jnaani*.

45. The Self awareness in the thoughtless state will expand and become universal awareness. This brain will transcend time and space. In such a person the *thrikaala jnaanam* exists. I.e. The knowledge of past, present and future.

46. There are also areas in the brain which is responsible for the sense of I (*aham*: in Sanskrit) And also the feeling creating centre of mine (*mama*: in Sanskrit). This centre is known as the temporal lobes. Hence these awareness and consciousness are the knowledge and hence the *prajnaanam Brahma/aham brahmasmi, thathvamasi* can be correlated with knowledge, and can be directly connected to the divine power as we Indians did, through awareness and consciousness which is science.

47. Since the sense of I is the level of awareness, in the higher place of awareness, I is the *drashta* (seer: one who sees) At that level of awareness the brain is receptive to universal power. Hence the name *manha drashta* given to the rushies is literally correct.

48. Cosmic power can be tapped by the brain if mind is in the fourth state i.e in Turya state. Just like the radio is tuned to receive a particular wave from the sky, the brain can be tuned to receive the universal power. Hearing and conversing with the universal power is possible at turya state.

49. The above state is the Scientific yoga. It is not the unity of the self with the super self, or linking the brain that is aware but understanding by thought, with universal awareness. It is the pure science and not philosophy.

X. PRANIC HEALING AND INDIAN CONCEPT ON THEJOMANYA-PRANAMAYA KOSHA

50. This branch of science was well known for Indians from time immemorial. It is rediscovered by the Choa Kok Sui through the bio plasma explanation, which is named as *praaana*. *Praana*, *apaana*, *vyaana*, *udaana*, *samaana*, *athma* is the Indian panchapraana concept. Here this concept is explained in the praanic healing.

51. Kirlian photography of the aura of the human beings was discovered by Russian couple: Simone and Valentine Kirlian. This substantiates the *pranamaya kosha*.

52. This *praanamaya kosha* is the same as the *thejomaya kosha* explained based on the energy of the body.

53. The energy absorption to the *praanamaya kosha* is taking place regularly. When there is an abnormality in the tissue the congested energy picture will show in kirlian photography.

54. The aura of the Rushies, Buddha, Jaina, Lord Krishna, are given in all the pictures which is now justified by the Kirlian photography. Even in the temples the idol has a *prabhamandalam* which is similar to kirlian photo.

55. The congested energy and the abnormality of the aura i.e the *thejomaya kosha* can be seen through the scanning done by the pranic healers and also through the Kirlian photography.

56. The explanation given in yoga books on the chakras as the centres of absorbing the prana energy becomes science. Scientifically, it has been explained that there are 11 centres to receive the energy in the body, where as the yoga books say there are 7 chakras.

XI. MODERN COUNSELLING AND ANCIENT INDIAN UPADESA SAARAAS

57. Counselling has become a common term in the modern

society. This is exclusively utilised to attain the psychological balance in handling and dealing with stress in the life. In India the puranic stories, panchathahtra, etc. carry these counselling messages, which reduces the stress.

58. The real counselling has brain chemistry involved in it as explained by the formation of endomorphins. Upadesa saara and neetisaara books written by Bharthrushari, Chanakya, Vyasa and many others have these counselling effect in it.

59. Bhagavath Geetha is the best counselling book in which from the confused, sad, psychologically perturbed (*bhramathee va cha me mana:*) state, through the counselling, Lord Krishna could make Arjuna do his duty. This has become best management book in modern system.

60. The ultimate aim of the puranas is in good agreement with counselling principles as mentioned by Sri Suka Brahma Rushi, the author of puranas: *Vijnaana vairaagya vivakshayaa vibho: vacho vibhootir na thu paramaartham*. The real aim of puranaas is to creat awareness and detachment on issues which creates problems in your mind. So Indian puranas are modern counselling handbooks.

61. Itihasaas inform you that problems in the life is common even if the god himself comes to earth as human being. Compare the problems, analyse, console to attain mental stability and reduce the stress in the life, thus modify the chemistry of brain. Again they are management books.

XII. MUSIC THERAPY, THE ANCIENT INDIAN RAAGA CHIKITSA, NAADA CHIKITSA AND SANGEETHA CHIKITSA

62. Many musicians use to sing particular ragas for curing diseases, particularly originated by stress, in the life. Where does the modern science stand in this aspect.

63. Gandhrva Veda is the Veda of music which is the upaveda

to Saama Veda. Lord Krishna has told in Bhagavath Geetha that among all types of knowledge (Veda) the most divine knowledge is the music, because it can affect body and mind.

64. According to Dr. Frewdshwars of the Pidmond Hospital of Atlanta, womb music with a specific wavelength has direct bearing on the growth of the baby in the womb.

65. Music can influence the growth rate of babies which are born prematurely. This is biochemically achieved through reducing the stress in the infants body and that energy is diverted for growth.

66. The baby in the womb can receive the heart beat rhythm of the mother and can diagnose it. This effect is known as the *Abhimanyu effect*, connected with the story of Abhimanyu of the Mahabharath, epic.

67. In the Gross Haden Hospital (in Munich, Germany) cancer patients subjected to chemotherapy were subjected to music therapy, and found that their fear disappears, blood pressure becomes normal.

68. Academy of sciences, in Russia uses music as an important tool to reduce the labour pain during delivery.

69. Prof. T. Temple Tuttler of the music department of the Cleveland university has done wonderful research on the subject and proved that learning process can be fastened in students through music. This is exactly what was (is) practices in India, learning through slokas, music, etc. This was applied in the learning of even mathematics, in India.

70. Prof. Tuttler has discovered that for increasing the memory, music is the best tool and also it is the most comfortable way to remember subject matters.

71. For relieving the pain caused by cancer, music can play a very important role. The dose of the sedatives can be reduced

significantly, if music therapy is accompanied with treatment.

72. The effect of music and mantras under the modern terms is known as Neurolinguistic effect and psycholinguistic effect.

73. In Karnatic music, Indians have established and explained, hundreds of years ago, that Bilahari, Kedara and Mohana ragaas reduce stress, confusion etc. It also can give the mental **energy and peace**.

74. Anandabhairavi, Sreeraagam, Syaama and Devagaandhaara are excellent to cure headache caused by tensions.

75. Music intonation therapy is advocated for aphasia (abnormality in speech) by modern medical system. For neuronal dropout and alchemers music therapy is excellent.

76. Music therapy combines with other system is suggested for headache, cerebral palsy, neuropsychiatry.

77. Aananda bhairavi raagam is found to normalise the blood pressure. Hariharapriya activates nervous system. Kalyani gives relaxation during depression. Shanmukhapriya to cure movement disorders and speech problems.

78. Music and mantras detracts the mind from bodily affairs and helps the body to get normalise faster than under tension, by producing the endomorphins, says modern science.

79. Music reduces the chance of infection, through increasing the immunity. It also reduces basal metabolism and increases energy reserves.

80. Michigan state University has formed a curriculum for music therapy, decades ago.

81. In USA hospitals like St. Luke's Hospital in Ohio, Mayo clinic in Minnesota have full-fledged music therapy department.

82. Working together by singing is found to reduce the physical strain and also improves the productivity, which is a common

practice in India for hundreds of years. Even now the boat race is conducted by singing the boat songs (vanchi paattu), in south India, same is in agriculture practice.

83. Music has an influence on the brain functioning. The Vedic chanting can have better influence in this line. The simple reason that it has the musical waves and spiritual psychology.

84. When an agitated person comes under a spiritual aura, the faith and mantras and sthothras directly affect the internal chemical balance and normality is attained.

XIII. VEGETARIAN FOOD THE COMMON INDIAN FOOD SYSTEM: Indians have always preached and practised that killing the animals and eating their flesh is against the dharma. It is particularly because, the life force which is called the Brahma chaitanya is manifested as atma in every animals and plants. Hence killing is against the spiritual and dharmic way. However instead of exploitation, if extraction is performed, that is dharmic. Hence the Atharva Veda preaches this mantra.

85. *Yaathe bhoome vikhanaami kshipram thadapi robathu maa they marma vivrugvari maa they hrudayamarppipam*

Whatever I take from you let that grow very fast and fill the gap. Oh mother earth, let we shall never destroy anything and we shall never pain you and break your heart. Thus the part of the plants like leaves, flowers, stems, roots, etc. are allowed to be consumed since it can grow again... The milk available from the animals is without killing them, but not so for the flesh.. Don't kill animals. Animals have pain, feelings, they are eager to survive in their own forms... This message is Indian and the vegetarian food is looked in this vision. The scientific merits of the vegetarian food has been accepted by the modern science also, on the following grounds.

86. The leaves, buds, flowers, stems, roots, etc of the edible plants are rich source of vitamins, minerals, proteins, starch and other micronutrients.

87. Vegetarian food supplies large amount of phytosterols and they are devoid of cholesterol. Presence of phytosterols prevents the absorption of cholesterol from the non vegetarian food items if present

88. Vegetarian foods are the only source of fibres and they fill the stomach, intestine and give the feeling of defecation and cleans the intestine faster and reduces chance of intestine cancer.

89. Vegetarian food is the most important source of poly unsaturated fatty acids. This PUFA is essential for the synthesis of hormones in the human body.

90. Majority of the vitamins are available for the body only from the vegetable sources. Hence taking mixed vegetables in the cooked form or as raw is ideal to get integrated complete nutrients.

91. In vegetables the biomagnification of pesticides will not take place, unlike in the animal products. Hence by proper washing the pesticide residues can be completely removed.

92. Vegetables may not contain deleterious materials, produced by external sources. Fermentation, bacterial decay, etc will not affect as seriously as the animal products. Very rarely the vegetables become the source of pathogenic organisms, either inherent or during storage.

93. Life expectancy of vegetarians is higher, the chances of blood pressure, heart problem etc. are less.

94. Due to the presence of PUFA the blood fluidity can be correctly maintained so that the strain for the heart will be minimum and also brain cells get enough fresh blood without

much strain, to heart.

95. Due to the presence of PUFA, the High Density Lipoprotein is generated at a high level and prevents the chance of heart attack. The research results of Dr. Deepakchand Jain of the Department of Biology, Safdarjang Hospital gives following scientific information on the vegetarians and non vegetarian.

96. The number of non vegetarians suffer from kidney stones, obesity, cancer of colon, strokes, arthritis, digestive problems, etc. is very high compared to vegetarians.

97. The diseases spread through non vegetarian food, known as junosis numbering 150 are common. Many of these disease have no cure in the modern medicine.

98. Non vegetarian food can seriously affect even the genetic system. Number of cancer patients in the non vegetarian category is high due to the genetic disorders.

99. Excess protein intake through non vegetarian food can cause kidney problem due to the fact that these proteins are to be removed after degrading, through kidneys.

RESEARCH RESULTS OF PROF. VINBURG, MASECHUSET INSTITUTE OF TECHNOLOGY, USA

100. Alcohol, smoking and non vegetarian food can directly affect the performance of the brain.

101. Non vegetarian food affects the urotransmitters and the chemicals released by them.

102. After eating the non vegetarian food brain gets excited and even the tendency of violence increases due to this. Most of non vegetarian animals are violent, cruel and dangerous, whereas vegetarian animals like, elephant, horse, camel etc. are silent and peace loving.

103. The tendency of crime and violence is higher in the places where more non vegetarians reside.

104. The life expectancy of the people of Ambkhasians, a State in Russia is 100 years and they are pure vegetarians. This province is attracting the attention of food scientists, worldover.

105. Data collected by Dr. Sethumadhavan from the meat industry and sales counters show that pathogenic worms, viruses, amoeba, bacteria enter into human body through **unhygienic meat very fast.**

106. Meat is the ideal medium for the growth of all type of pathogenic organisms, either present in the slaughtering animal, or received from the unhygienic slaughter houses.

107. Germs of anthrax, tuberculosis, brucellosis, botulism, taeniasis, meningitis, listeriosis, tetanus, etc. can directly enter into the human body from the meat products.

108. Tinned meat is the best carrier of many types of pathogenic germs.

XIV. AYURVEDA THE INDIAN HEALTH AND FOOD SCIENCE.

The principle of Ayurveda is to treat the patient and not the diseases. Hence the curing system is connected with the health of the patient. The treatment system is focussing through the tridosha siddhanta of Vaatha, Pittha and Kapha. The basic text of Ayurveda is the oldest Brahma samhitha. Presently available important texts are Susrutha samhitha and Charaka samhitha. The present world status of the Ayurveda appears to be as follows

109. The pathya style of life system of controlling human activities including the food has been accepted directly by the scientific community.

110. Vegetarian food systems are becoming the order of the day particularly by during older ages as advocated by Ayurveda.

111. Oil massage and direct massage are renamed as physiotherapy by the modern medical practitioners.

112. Hot water massage increases blood circulation and hence good for removing the accumulated fluid and byproducts in the body and smoothening the blood flow. Cold water massage is found to activate the cells.

113. Incorporating the medicinal plants in the daily foods, (cardamom, clove, pepper, turmeric, sweet neem, coriander, dill, and many other spices) has scientific support as the best method to improve digestion, prevent stomach and intestine based disorders.

114. Majority of the modern digestant, stimulants and anti irritants are based on the Ayurvedic products.

115. Modern balms, waxy materials, creams having curative property are directly the contributions of the Ayurvedic systems which are lepana dravyas in Ayurveda.

116. Modern medicinal pharmacopeia has more than 200 medicinal plants which are taken from the Ayurvedic books. More and more plants and their extracts are added to the list.

117. The number of Ayurvedic drugs getting the patents in the developed countries is steadily increasing. Even turmeric, neem, etc., have patents in many forms of extracts/ powders.

118. Many medicinal plant extracts are now available in the modern labels and produced using modern technology.

119. Germany has allowed the direct patenting of the medicinal plants. Many classical Ayurvedic drug formulations are now available in the modern forms and packages.

120. The Ayurveda has been selected as the most important alternative medical system by world health organisation.

121. The Ayurvedic approach on body and mind has been entirely accepted by modern system.

Sarrera manaso yoga parasparamanuvrajeth aadhaara adheya bhavena thapthaujyaghatayoriva

The body and the mind are existing complimentary to each other in which the body is the support and the mind is the supported. Their relation is just like oil and container, when heated. (when hot oil is poured into the vessel, the heat passes from oil to vessel. Similarly when cold oil is poured into hot vessel the heat transfers from vessel to oil. Like this the feelings of mind influence the body and physical condition of the body affects the mind) This 2000 year old Indian principle has been accepted since 1940 by the modern medical system also.

122. Now it has proved that more than 80% of the disorders are coming under the category of psychosomatic diseases caused by the improper mental processes.

123. For controlling and harmonising the mind, systematic meditation is advised. For curing the common psychosomatic diseases like asthma, skin diseases, blood pressure, arthritis, atheroscleroses, heart problems, headache, migraine, diabetics etc. mind control and meditation is taking the prime role.

124. Research studies have shown that only 20% diseases are cause and effect diseases.

125. The above Indian approach of mind and body relation is opposite to the western approach propounded by Cartesian theory of explaining the man as the assembly of organs, like a machine.

126. Vagbhata is theory of mind and body has now been

entirely accepted by modern science.

127. The flower therapy developed by Dr. Edward batch (1886-1936) for curing the psychological problems like fear, sadness, absence of self confidence, confusion, doubts, jealousy, ego, self hatred, impatience, epilepsy, shock, inferiority complex, etc is a part of spiritual customs in India where flowers are used for pooja and given as prasaadam.

128. The flower therapy is said to be developed in London University College Hospital by Dr. Batch and it is named as Batch's flower therapy, originally it is Indian

129. The principle of quantum healing developed by Dr. Deepak Chopra is the principle of influencing the body through the mind for healing, as mentioned in Ayurveda.

130. Spirituality, mantras, prayer, bhasma, and also medication are used in the healing practices, in quantum healing.

131. The naturopathy has its root in Ayurveda. The yoga is also connected with Ayurveda. Fasting therapy, water therapy, colour therapy, siddha system of medicine, etc have their roots in Ayurveda.

132. Aromatherapy has its roots in the Ayurveda and in other Indian customs. Using the sandalwood paste, plant extracts, aromatic spicy oils, etc for curing headache, muscular pain, etc was common here.

133. Aroma therapy has been approved by the modern medical practitioner to cure muscular pains, mental tension, blood blockage, cough, cold, etc.

134. The Vicks and Amruthanjan type of compounds, tiger balms, etc are functioning as the aroma therapeutic compounds. This is directly the Ayurvedic contribution.

XVI. CHILD CARE THE INDIAN WAY: The child caring methods followed by Indian women is found to have many psychological and physiological effect in the growth of the babies/infants.

135. World over the breast feeding has been accepted.

136. Touch therapy has become the part of the child care and it is advised to have close contact of mother with baby.

137. Giving food in the hands and telling stories give the opportunity to get self confidence and brain growth in children other than increasing the immunity.

138. Variety of cooked/semicooked/specially processed food given to babies in India is found to contribute ideally all nutritions required for the child during different stage of their growth and they develop a strong covering in stomach.

139. Ready made babyfood had been instructed to be avoided in hospitals and the mothers are advised to follow only the natural normal foods to the child. These instruction now appear in every hospitals, which are fundamentally Indian.

140. Giving oily bath to the babies and allowing them to play in the sun is a practice in the child care, which has been accepted by modern physicians, the layer prevents microorganism entering the body and gives muscular flexibility.

141. Playing in the sand or soil and lowering a bit of hygiene is found to increase the immunity in children. This study results are obtained when many children under less hygienic conditions were examined.

142. Telling stories while going to bed is found to have an excellent psychological smoothening effect on the child. This reduces the fear and gives many sociological information through the interesting examples in the stories. This also has significance in learning the values and ethics.

143. In the medical colleges the synonym for the child care is now known as the Grandma's techniques which is nothing but the complete acceptance of the old Indian traditions by the modern science.

XVII. AGRICULTURE THE INDIAN APPROACH: Indian approach to agriculture has been explained systematically by Varahamihira, Saarnagadhara and many other ancient Indian scientists. Majority of their information are now appreciated and accepted in the modern agricultural practices.

144. Bio fertilisers in the place of artificial, inorganic, synthetic fertilisers are becoming scientifically more popular around the world. The products obtained by this method is labelled separately and sold at higher price. Higher level of acceptance shows the ecofriendly Indian approach is receiving world over attention.

145. Use of plant products, cow dung, ash are becoming more popular and agriculture scientists give special direction and guidance for this procedures.

146. Biopesticides are becoming more popular now. The extract of neem, tobacco, turmeric, etc are marketed under different names. More and more plant products are searched for their bio pesticidal properties. Antifeedants, allelochemicals etc are ecofriendly class of compounds used, by Indians.

147. Fumigation was one of the common techniques used in India, even now it is practised in all villages. This has been suggested as the best method to control pests.

148. Panchagavya is a solution produced by mixing large quantity of water with small amount of cowdung, milk, curd, urine of cow and a bit of ghee. The microorganisms present in the cowdung is found efficiently controlling the pathogenic microbes. This is now practiced in the entire Karnataka state

as advised by the University of Bangalore Agriculture Department. This practice is picking up to get higher yield by avoiding the costly and deleterious synthetic pesticides.

149. Using cowdung water, after filtration is also found to be an efficient method for controlling the virus, bacteria moulds and fungus diseases attacking plants.

XVIII. FOOD, CUSTOMS AND RITUALS: The Indian way : In India the food preparation and consuming are connected with a variety of customs. Many of these are found to be excellent practices with due scientific merits in them.

150. Using variety of vegetables, directly contribute to the complete nutrition of micro and macro types.

151. Using medicinal plants a part of the food is practised only in India. This gives a variety of medicinal effect.

152. Sitting in the floor and taking the food helps the peristaltic movement of the food from mouth to stomach.

153. Prayer before food by sitting in front of the food, produces large amount of digestive enzymes and saliva which smoothen the digestion.

154. Sitting on wooden plank or mat for taking the food is excellent to prevent the earthing of body electricity directly to the floor. The wooden plank and mat are ideal non conductors.

155. Fasting at fixed intervals is common in India particularly on special days like ekadasi. This helps in the optimum performance of the intestine and also in cleaning the same.

156. Changing food items at intervals is a part of vrathas in India. This change may be from rice to wheat, or wheat to fruits, etc. This activates different type of enzyme producing centres in the intestine, due to the change in the nature of

food items.

157. It is always suggested to avoid the bed coffee. It has been proved that the degraded components of the left out food materials in the mouth (retained from the previous day's intake) can be avoided from entering into the stomach, by avoiding the bed coffee, taken before cleaning the teeth.

XIX. INDIAN APPROACH TO ENVIRONMENT : This has been clearly explained in the Vedas and books dealing with plants. A holistic approach to earth/air/water/plants/animals etc. is the Indian outlook and vision.

158. Towards air the Vedas say that: *Namaste vayo thvameva prathyaksham bbrahmasi, thvameva prathyaksham brahma vadishyami sathyam vadishyaami*. Oh air, you are the god for me. I consider you as the observable universal power. I hear others also say same words. I know they are telling the truth. I want it to be perfect universal truth! This statement directly instructs one to keep the purity of the air, because it is the basis of life on the globe earth. Pollution of air can cause complete annihilation of living system.

159. Towards water too Indian approach is the same : *ima aapa sivaa santhu subha: suddhascha nirmala paavana seethalaaschaiva poothaa sooryasya rasmibhi:* Let this water become holy, sacred, clean, pure, cool and free from all germs by the effect of sunrays. (it is well known that the ultraviolet rays of sun can destroy the micro organisms).

160. The Veda says that: *aapascha viswa bheshajee, aapa praneetha bheshajam varoodham...* Water is the universal medicine. All the medicines will be active only with water. This is a scientific truth. Even the water therapy is becoming a new branch of medical system now. A vedic vision.

170. Indian approach to Earth is the mother earth concept.

Ayam maatha pruthvi puthroaham pruthivya. This earth is my mother and I am the son of the earth. After getting birth from the mother, we sustain for few months with mother's milk. After that we live with the products obtained from earth, Hence she is our foster mother.

171. In atharva Veda we pray : *Maa they marma vivagvari maa they hrudayamarpipam* Let you not suffer with my negative actions. Let your heart not affect by our actions. The mother earth concept has been accepted world over by the nature lovers. In developed countries one can see the Indian slogan written everywhere: Protect mother earth.

172. Indian concept of *vasudaiva kutumbakam* : this globe earth is our home and all living being are our family members is Rig Vedic slogan. The responsibility to look after every living being is bestowed on human shoulder. Thus the slogan of protect nature is true to the best of Indian spirit, accepted even by UNO.

173. About the plant and tress Indian approach is highly holistic. Sarngadhara in his vrukshaayurveda has told thus: *Dasa koopa eka vaapi dasa vaapi eka nadee dasa nadee eka puthra dasa puthra eka vruksha*. Ten wells are equal to one pond, ten ponds are equal to one river, ten rivers are equal to one son and ten sons are equal to one tree.

174. The effect and role of our ten sons are played by one tree. Thus the approach to forest and trees are eco friendly. Before cutting the trees, in India one used to apologise and pray, sometimes even pooja is performed so that the nature and environment should not be affected.

175. Many south Indian houses have the small temples in their premises with large number of trees, and idol of serpent (snake). This is proved to be a bio reserve with varieties of trees, creepers, pond, etc., It is named as the *sarpakaavu* in

Malayalam. The studies have shown that these tiny forests influence the environmental conditions positively and significantly. The international environmental agencies have given huge amount for their preservation, to Government of Kerala.

176. In India, temples have near by large ponds. These ponds are proved to be the excellent water reservoirs to preserve rain water and maintain water level throughout the year.

177. Even the forests are dwellings for human beings at the later stages of their life. In forests (Himalayas) thousands of Indians do the thapas even now. Hence the process is known as the vaanaprastham means leaving to forest.

XX. FAMILY RELATIONS: The joned family approach: World over family relations are breaking resulting in the psychological abnormality in growing children, increase in the number of suicide, psychosomatic diseases, sharp increase in the rate of AIDS, heart problems, etc. The social life of human beings are steadily shrinking. World over sociologists are searching for alternatives. Thus again, India becomes the focus for the ideal social and family relations.

179. Indian approach to the relations with mother, father, teacher and guests are attractive : *Maathru devo bhava, pithru devo bhava* *achaarya devo bhava athithi devo bhava*. Let the mother, father, teacher and guest have the status of god (and have the divine relation with me). This approach gives the strongest binding among the family members.

180. World over people started celebrating mother's day only for building the family relations, based on Indian family system.

181. For caring the aged parents, Indians follow the sacred relation as a privilege, responsibility and duty. That approach is being well studied by the sociology departments of various universities in the west.

182. Our relations on caring the children/husband/wife/mother/father/grand parents etc are so powerful that Indians say that blood relation is the strongest relation. Many foreign visitors who come to India try to implement this principle in their life to build up an organic relation with family members!

183. The Indian joint family system has the history of thousands of years, where grand children live with parents and grand parents by sharing the joy and sorrow, resulting in mental, moral, ethical and traditional merits in the life.

184. This gives best psychological support for the growing up children, and other family members in their tough times. The problems connected with blood pressure, heart diseases, suicidal tendency, etc are significantly lower in this joint living than in the micro family systems.

XII. MORE INDIAN CONCEPTS ARE RECEIVING WORLD ATTENTION...

185. The Indian concept of blessings, curse, sin, etc. are taken by Prof. Eric Berne in his transactional studies, theories of human behaviour, counselling and in his psychological treatment.

186. The management concept given in Bhagavath Geetha as the duty bound performance is attracting the attention of the academic community in the management subject.

187. Dr. Deepak Chopra's book on the Indian concept of management has attracted the management associations, world over.

188. Indian cultural concepts are making new waves in different countries, which is clear from the high level of acceptance received for the book written by Dr. Deepak Chopra: "Return of the Rushi".

189. Like the above ancient Indian approaches there are many Indian concepts which are receiving attention from world over particularly important is the civil engineering concept of

vaastu vidya adopted in the construction of buildings.

190. The concept of self awareness and consciouness of the universe and also in the cells of living body is the fundamental Indian spiritual concept, which is being studied by the theoretical physics department in leading universities.

191. The, book written by Dr. Amit Goswamy 'The self aware Universe is the best seller in this line, on the self awareness of the universal power, as mentioned in Visvaroopaa of Geetha.

192. A course was offered on "the living Universe" in the Schumaker College in UK. This concept of living universe is explained in the viswa roopa chapter in Bhagavath Geetha. Also through purushasooktha, in Vedas.

193. The Brahmaanda concept of Universe as explained in the Bhagavatha Maha Purna, has been described by the world famous scientist, Dr. Jayantha Narlikar in his book 'Seven wonder of the cosmos' published in Cambridge. He has translated Brahmaanda as 'universal egg' concept.

194. Ricket Colman, Hewlett Packard, Oriental bankers, Williamson Major, and many other multinational companies have started recommending the transcidental meditation for their employees during office hours.

195. National Institute of Mental Helath and Neuro Sciences Bangalore, India recommend Sudharsana Kriya a type of meditation for controlling psycho somatic diseases.

196. The global studies conducted under the guidance of WHO have shown that the psychosomatic manifestitions like heart diseases, BP, ulcer, asthma will be the number one killer world over in the near future. WHO is planning for a stress eradication mission using meditation as the prime choice.

197. Dr. Aswin Chopra of the world famous Jeslock Hospital has redefined the health as the physiological, psychological,

social, mental and spiritual well being state of the individuals is health. Here Indian concepts are taking the base for health.

198. Dr. Aggarwal of the Indraprastha Apollo hospital in New Delhi where there is a body mind medicine department, says that we treat the people "physically, mentally, socially and spiritually. We add the non drug therapies of Indian system".

199. The trainer of the Miss World Ms Yuktha Mukhe, Sabira Merchant tells in an interview that through mantras, meditation and Vedic diets, Ms. Yuktha Mukhe could win the position of Ms World in the beauty context.

200. Danish Government has sponsored the recording of the Vedas, through a Danish student Mrs. Guni Hesting Kirshnier.

The marching of Indian scientific thoughts in the modern world is unending..... including in the spiritual world it is very clear.... Indian approach to integrated life is catching up every where. The only alternative for good mental, physical, social and spiritual life for the next millennia.

The mantra of the day for life management everywhere has become the Upanishadic message!

*Sabanaavavathu sabanow bhunakthu sabaveeryam
karavaavahai thejasvinaavadbeethamasthu maa
vidvishaavahai aano bhadraa krathavo yantu visvatha:*

Om santhi: santhi: santhi:

Let us live together, let us eat the food together, let us do all our work together and through that let us become powerful and wise. Let us not have hatred among ourselves and let noble thoughts come to us from everywhere! Let there be peace everywhere!

Om peace peace peace

This is the mission of even United National Organisation

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